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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,785	02/24/2004	Tomoyuki Yagi	1232-5295	3766
27123	7590	06/07/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			WILLIAMS, DON J	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/786,785

Applicant(s)

YAGI, TOMOYUKI

Examiner

Don Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**.
- 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-10 and 12-14 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10, 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
  - Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  - Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some \* c) ☐ None of:
    - 1. ☒ Certified copies of the priority documents have been received.
    - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Applicant's arguments with respect to claims 2-10 and 12-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2-4 and 9-10, 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirai et al (6,952,465).

As to claims 2, 9, 12, Hirai et al disclose (see fig. 2) a two dimensional sensor having a plurality of pixels and column signal lines (Lc1 to Lc3328) two dimensionally arranged on a substrate, each pixel having a photoelectric conversion element (21(1,1) to 21(3328,1)) which converts radiation or visible light (1) into an electrical signal and transfer devices (TFT, 22(1,1) to 22(3328,1)) for transferring the electrical signal charge generated by the photoelectric conversion element (21(1,1) to 21(3328,1)) the signal lines (Lr1 to Lr4096) and (Lc1 to Lc3328); a first read unit (36) which is connected to the column signal lines (Lc1 to Lc3328) having a preamplifier (26) for amplifying and

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reading the electrical signal transferred to the signal lines (Lr1 to Lr4096) and (Lc1 to Lc3328) by the transfer devices (TFT, 22(1,1) to 22(3328,1)); a phototimer detection unit (50) (see fig. 3) which is arranged on the substrate for detecting the radiation or visible light (1) and generating a detected signal and transferring the detected signal to a signal line to control exposure of the radiation of visible light (1); and a second read unit (preamplifier, 52) which is connected to the signal line for reading the detected signal detected by the phototimer detection unit (50) from the signal line wherein a phosphor converts x-rays into visible light, (see column 1, lines 25-40, lines 63-67, figure 2, column 4, lines 1-67, figure 3, column 5, lines 18-67).

As to claim 3, Hirai et al disclose a phototimer detection unit (50) is provided in the same place as the signal lines, (see figure 3, figure 4, column 5, lines 39-67).

As to claim 4, Hirai et al disclose a phototimer detection unit (50) manufactured by the same manufacturing process as that for the photoelectric conversion element (21) or the transfer device (TFT, 22), (see column 2, lines 45-53).

As to claim 10, Hirai et al disclose an exposure control unit (50) for determining an exposure from an electrical signal based on the detected electrical signal read by the second read unit (52) and controls an x-ray source to obtain an image having optimal contrast, (see column 2, lines 1-25, figure 3, column 5, lines 18-37).

As to claim 13, Hirai et al disclose a second read unit (52) for reading electrical signal from a phototimer detection unit (50) wherein the second read unit (52) is connected to signal line, (see figure 3, column 5, lines 18-67).

As to claim 14, Hirai et al disclose that the signal line include (see column 4, lines 38-45) transparent electrode (A, K) which is transparent to visible light (1) on an area where the phototimer detection unit (50) is arranged, (see figure 3, column 5, lines 18-67).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al in view of Kaifu et al (6,075,256).

As to claims 5-8, Hirai et al disclose photoelectric conversion elements (21(1,1) to 21(3328,1)). Hirai et al fail to disclose a first electrode layer, a first insulating layer, a photoelectric conversion semiconductor layer, a second electrode layer, a first injection blocking layer, a second injection blocking layer, a first conductivity type, and a third electrode layer made of metal. Kaifu et al disclose a first electrode layer, a first insulating layer, a photoelectric conversion semiconductor layer, a second electrode layer, first injection blocking layer formed between the second electrode layer and the photoelectric conversion semiconductor layer, and a second injection blocking layer, (see Abstract, column 11, lines 1-31). It would have been obvious for one ordinary skill in the art to modify Hirai et al to include a first electrode layer, a first insulating layer, a photoelectric conversion semiconductor layer, a second electrode layer, an injection

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blocking layer formed between the second electrode layer and the photoelectric conversion semiconductor layer as disclosed by Kaifu et al along with a third electrode layer to improve the reduction of dark current and thereby increase the signal-to-noise ratio.

### ***Conclusion***

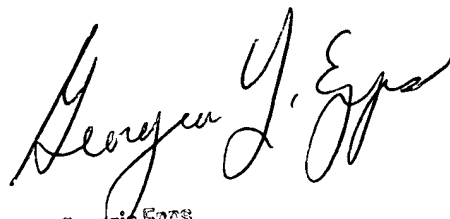
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don Williams whose telephone number is 571-272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800